

10/10/84

BW LCIF

Comment to DSB on the significance of advanced biotechnology for CW and BW.

CW:

Near-term (next decade)

Biotechnology offers means to develop and mass-produce exotic toxins not otherwise accessible. These might have properties of

- a) potency
- b) insidious action
- c) availability of self-protective immunization

that would make them competitive or superior to existing agents. High potency could lead to weapons formulations that might penetrate existing protective garments and masks.

Long-term

Further research on toxins might lead to agents with

- a) specific interactions with diet or other factors, leading to population-specific weapons
- b) still more insidious effects -- e.g. psychotropically oriented

BW:

Near-term

The added input of biotechnology is fairly small compared to the revolution in modern politics and warfare that would follow the introduction (even serious testing) of BW whether with existing or advanced agents. Existing agents could have devastating effects, mainly as directed to civilian populations or applied covertly to special military targets (submarine and other strategic weapons platform crews). The long incubation period of all BW makes them difficult for tactical military ops.

The main use of biotechnology in the near term is for the production of preventive vaccines - work that is quite lawful as for defensive military and for civilian public health aims. Such work goes on in the U.S. on a substantial scale, quite openly. It is certainly a high priority in the USSR, but there as with much or most mixed-advantage technology, it is in large measure clandestine, and beyond ready assessment as to its intentions.

Existing BW agents have many of the properties (except prompt action) of advanced CW. Intelligence and military responses in re BW should not be distracted by the novelties of biotechnology from the fundamental issues of BW capability and intentions.

BW efforts are as likely to be directed to crops as to human targets. It may be difficult to dissuade the USSR from continued experimentation with BW in view of the special advantages this could give them in

their difficulties with the PRC.

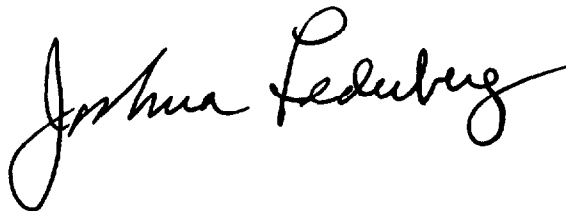
An enormous problem about intentions re BW is that BW-RESEARCH cannot be distinguished from the mainstreams of biomedical science! The only hallmark of nefarious intention is research done in secret.

Long-term:

Over a longer period, biotechnology could generate advanced BW agents with the properties listed for advanced CW. But these would be far more potent, as single infective particles could have a lethality (and specificity, insidiousness) to exceed that of chemicals 10^3 to 10^6 greater in mass.

There has been much discussion about cloning potent toxins to produce more dangerous BW agents. There may be some incremental military advantage in advanced agents, but the difference between conventional and advanced is far smaller than the difference entailed in ANY introduction of BW.

The greatest obstacle to the military use of BW is the difficulty of controlling its spread outside the theater. This is less likely to deter terrorists or crazy states than superpowers (possessed of other strategic weapons.) It follows that the greatest dangers of BW may come from proliferation, in the prevention of which the superpowers share common cause. Cooperation to this effect will be very difficult, however, in the face of clandestine work in military biotechnology.

A handwritten signature in cursive script, reading "Joshua Lederberg". The signature is written in dark ink and is positioned in the lower right quadrant of the page.